REMARKS/ARGUMENTS

Prior to the entry of this amendment, claims 1-10, 12-23 and 31-44 were pending in this application. Claims 1, 20, 31, 37, and 43 have been amended, no claims have been added and no claims have been canceled herein. Therefore, claims 1-10, 12-23 and 31-44 remain pending in this application. Applicant respectfully requests reconsideration of these claims for at least the reasons presented below.

35 U.S.C. § 103 Rejection, Durand in view of Shen, in further view of Tzelnic

The Office action has rejected claims 1, 2, 4-10, 12-17, 20, 21, 23, 31, 33-37 and 39-44 under 35 U.S.C. § 103(a) as being unpatentable over U. S. Patent No. 5,694,598 to Durand et al. (hereinafter "Durand") in view of U. S. Patent No. 5,596,746 to Shen et al. (hereinafter "Shen"), in further view of U.S. Patent No. 6,366,987 to Tzelnic et al. (hereinafter "Tzelnic"). The Applicant respectfully submits that the Office Action does not establish a *prima facie* case of obviousness in rejecting these claims. Therefore, the Applicant requests reconsideration and withdrawal of the rejection.

In order to establish a *prima facie* case of obviousness, the Office Action must establish: 1) some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or combine their teachings; 2) a reasonable expectation of success of such a modification or combination; and 3) a teaching or suggestion in the cited prior art of each claimed limitation. See MPEP §706.02(j). As will be discussed below, the references cited by the Office Action do not teach or suggest each claimed limitation. For example, the cited references do not teach or suggest, alone or in combination, storing a mapping catalog for use in translating subsequent data access requests. Also, the references do not teach or suggest, alone or in combination, receiving a request to access data, accessing a previously stored mapping catalog, and translating a data access request based on the stored mapping catalog.

Durand "relates to methods for mapping data between an object-oriented data model and a relational data model." (Col. 1, lines 8-10) Durand discloses a method of mapping from a plurality of objects to a relational database that includes generating and populating a transit object with data from the objects, populating a data structure with the information from the transit object, and finally populating the relational database based on the structure. (Col. 3, lines 1-21) Durand's method of mapping from the relational database to the objects is essentially the reverse process, i.e., populating the data structure with information from the relational database, populating the transit object based on the data structure, and populating the objects with data from the transit object. (Col. 3, lines 22-39)

The final Office Action, as well as previous Office Actions, have identified the transit object of Durand as allegedly teaching the claimed "mapping catalog." However, as argued previously, the Applicants do not believe that this is an accurate reading of the elements of the claim or Durand and that Durand fails to teach or suggest the mapping catalog as claimed. Furthermore, even if, assuming for the sake of argument, the transit object of Durand can be considered to teach or suggest the mapping catalog as recited in the claims, nothing in Durand teaches or suggests saving the transit object for use in translating subsequent data access requests. Rather, as the name seems to imply, the transit object is an ephemeral data structure used to temporarily hold information in the process of translation between an object-oriented data model and a relational data model, specifically, to transfer or transmit the information between the client object broker and the server object broker. The transit object is then used at the destination to populate a relational database or an object. (Col. 3, lines 1-40) It is the database or object that is then saved, not the transit object. Furthermore, transit object is not used to translate subsequent data access requests. Rather, the aforementioned process suggests a new transit object for each transfer that is used to translate stored between an object-oriented data model and a relational data model, not to translate a request for data.

Shen provides "a method and apparatus for transforming data base schemas to object models." Under Shen "the data base schema is mapped into instances in an ideal table meta model. Next, the information in the ideal table meta model is mapped into instances in an object meta model. Finally, the information in the object meta model is used to generate a file compatible with an object modeling tool for the purpose of displaying, in graphical form, the object model on a visual display device of a computer." (Col. 1, lines 60-67) However, the ideal table meta model of Shen, like the transit object of Durand, fails to disclose a mapping catalog as claimed. That is, Shen does not teach or suggest a mapping catalog for mapping attributes of an object to tables of a relational database or for translating data access requests. Rather, the ideal table meta model of Shen is used to generate a file to be used by a modeling tool in generating a graphical representation of an object model. Furthermore, Shen does not teach or suggest translating a data access request based on the ideal table meta model.

Tzelnic is directed to "computer data storage backup, and more particularly, to a data storage system that provides backup of physical storage units with a minimum of host computer system involvement." (Col. 1, lines 6-9) It is noted that Tzelnic is cited by the Office Action in an attempt to demonstrate a teaching of storing a mapping catalog for translating subsequent data access requests. The cited portion of Tzelnic recites in total:

> "When a backup operation is performed, it is desirable to perform a cataloging process with respect to the physical storage unit specified by the backup command in order to preserve historical information about the logical data structures contained in the physical storage unit. This catalog identifies the logical data structures that can be logically restored from the physical storage unit. The catalog need not contain mapping information about where the respective components of the logical data structures are located in the physical storage unit. This mapping information could be retained in data storage local to the host or could be backed up in the physical storage unit. For example, if a file system is being backed up, the physical storage unit containing the file system could

> include a file directory including a list of file names, historical information associated with the files, and the mapping information associating each file name with a respective list of the component physical storage units (i.e., a list of physical tracks) of each file as those physical storage components are found in the physical storage unit specified by the backup request. The historical information would indicate the time when each of the files was created or last modified." (Col. 15, lines 40-61)

That is, the cited portion of Tzelnic describes a file allocation table used to physically locate data stored on a storage device. However, this catalog of physical storage locations cannot be considered to teach of suggest a mapping catalog for a relational database format that maps attributes of objects to tables of the relational database format and identifies relationships between tables of the relational database as recited in the pending claims. Rather, the catalog of Tzelnic describes a physical location of a logic data structure.

Furthermore, even is the cataloging process of Tzelnic can be considered to teach or suggest saving a mapping catalog as claimed, Tzlenic does not teach or suggest, alone or in combination with Durand and/or Shen, translating a data access request based on the mapping table. Rather, the catalog of Tzelnic is used to physically locate a logical data structure but not to translate a request for that data.

In summary, the combination of Durand, Shen, and Tzelnic is no more relevant to the pending claims than any of these references alone since none of the references, alone or in combination, teach or suggest storing a mapping catalog for use in translating subsequent data access requests or accessing a previously stored mapping catalog. Also, the references do not teach or suggest, alone or in combination, receiving a request to access data, accessing a previously stored mapping catalog, and translating a data access request based on the stored mapping catalog. Rather, the transit object of Durand is an ephemeral data structure used to temporarily hold information in the process of translation between an object-oriented data model and a relational data model while the ideal table meta model of Shen is used to generate a file to be used by a modeling tool in generating a graphical representation of an object model. Tzelnic fails to correct this lack of teaching since the catalog of Tzelnic is used to physically locate a logical data structure but not to translate a request for that data.

Independent claim 1, upon which claims 2-10 and 12-19 depend and independent claim 20, upon which claims 21-23 depend both recite in part "creating a customized mapping catalog for said relational database format based on said classifications, said mapping catalog maps said attributes of said objects to said tables of said relational database format and identifies relationships between tables of said relational database; storing the mapping catalog for use in translating subsequent data access requests; receiving a request to access data for a first attribute; and translating the request based on the saved mapping catalog." None of the references, alone or in combination, teach or suggest storing a mapping catalog for use in translating subsequent data access requests or accessing a previously stored mapping catalog. Also, the references do not teach or suggest, alone or in combination, receiving a request to access data, accessing a previously stored mapping catalog, and translating a data access request based on the stored mapping catalog. Rather, the transit object of Durand is an ephemeral data structure used to temporarily hold information in the process of translation between an object-oriented data model and a relational data model while the ideal table meta model of Shen is used to generate a file to be used by a modeling tool in generating a graphical representation of an object model. Tzelnic fails to correct this lack of teaching since the catalog of Tzelnic is used to physically locate a logical data structure but not to translate a request for that data. For at least these reasons, the rejection should be withdrawn and claims 1-10 and 12-23 should be allowed.

Independent claim 31, upon which claims 32-36 depend, independent claim 37, upon which claims 38-42 depend, and independent claim 43, upon which claim 44 depends, each recite in part "receiving a request to access data for a first attribute, said request identifies said data in a first data format, said first data format includes objects, said objects include one or more attributes; accessing a previously stored mapping catalog customized for a relational database schema, wherein the mapping catalog maps the first attribute to the relational database schema based on a classification of the first attribute and said mapping catalog identifies a portion of a table in a relational database that stores said data for said first attribute and identifies relationships between tables of said relational database; translating the request based on the mapping catalog; and accessing said portion of said table in said relational database that stores said data for said first attribute based on said translated request." None of the references, receiving a request to access data, accessing a previously stored mapping catalog, translating a data access request based on the stored mapping catalog, and accessing data based on the translated request. Rather, the transit object of Durand is an ephemeral data structure used to temporarily hold information in the process of translation between an object-oriented data model and a relational data model while the ideal table meta model of Shen is used to generate a file to be used by a modeling tool in generating a graphical representation of an object model. Tzelnic fails to correct this lack of teaching since the catalog of Tzelnic is used to physically locate a logical data structure but not to translate a request for that data. For at least these reasons, the rejection should be withdrawn and claims 31-44 should be allowed.

35 U.S.C. § 103 Rejection, Durand in view of Shen, in further view of Tzelnic, and in further view of Bachmann

The Office Action has rejected claims 3, 22, 32 and 38 under 35 U.S.C. § 103(a) as being unpatentable over Durand in view of Shen, in further view of Tzelnic, and in further view of U. S. Patent No. 6,085,188 to Bachmann et al. (hereinafter “Bachmann”). Applicant respectfully requests withdrawal of the rejection and allowance of the claims for at least the reason that claims 3, 22, 32 and 38 each depend upon base claims that are thought to be allowable as discussed in detail above.

35 U.S.C. § 103 Rejection, Durand in view of Shen, in further view of Tzelnic, and in further view of Henninger

The Office Action has rejected claims 18 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Durand in view of Shen, in further view of Tzelnic, and further in view of U. S. Patent No. 5,499,371 to Henninger et al. (hereinafter "Henninger"). Applicant respectfully requests withdrawal of the rejection and allowance of the claims for at least the reason that claims 18 and 19 both depend upon independent claim 1 which is though to be allowable as discussed in detail above.

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

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Respectfully submitted,

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